Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of	)	
	)	
Guidelines for Evaluating the	)	ET Docket No. 93-62
	)	
Environmental Effects of	)	and FCC Report and Order
	)	
Radiofrequency Radiation	)	FCC 96-326

To: The Commission

PETITION FOR RECONSIDERATION

Regarding FCC Report and Order FCC 96-326

Adopted and Released August 1, 1996

Submitted by the Cellular Phone Taskforce
Post Office Box 100404
Vanderveer Station
Brooklyn, New York 11210

Arthur Firstenberg, Chairman

August 30, 1996

Original + 14 copies

TABLE OF CONTENTS

Summary 2

Introduction 4

1a. The existence of a population who are electro-sensitive 5

1b. Petitioners are directly affected 8

2. Necessity for further defining Specific Absorption Rate (SAR) 8

3a. Microwave hearing 9

3b. Petitioners are directly affected 9

4. Cumulative mass impact 10

Footnotes 12

SUMMARY

The Cellular Phone Taskforce, having new information concerning the public health and safety and directly affecting the members of the Taskforce, respectfully requests that Final Rule FCC 96-326 regarding ET Docket 93-62, be modified accordingly.

A. Modifications needed in 47 CFR Part 1, Sec. 1.1307 (actions with significant environmental impact)

(1) To protect electrosensitive individuals, Sec. 1.1307 needs to be modified to require routine environmental evaluation of all transmitters, facilities, and operations that are less than 2000 feet from any residence, without exception, to determine compliance with the exposure limits in Sec. 1.1310.

(2) Sec. 1.1307 may need to be modified in light of a further definition of Specific Absorption Rate (SAR).

B. Modifications needed in 47 CFR Part 1, Sec. 1.1310 (Radio-frequency radiation exposure limits)

(1) To protect electrosensitive individuals, Sec. 1.1310, Table 1(B) needs to be modified to set Power Density limits at 10 μ W/cm^2 for all frequencies above 100 MHz.

(2) To prevent microwave hearing, Sec. 1.1310 needs amending to include a limit of 40 mW/cm^2 peak power for frequencies of 300 to 3000 MHz, or to establish other appropriate limits on pulse width and peak power in

consultation with bioelectrical experts.

(3) The safety standards in Section 1.1310 need to be adjusted to protect those with the greatest SAR for each frequency.

C. Redefinition of SAR

Specific Absorption Rate for each frequency needs to be defined for the full range of human sizes.

D. Moratorium

Until such time as a methodology is established to evaluate and limit cumulative exposure from multiple electromagnetic radiation emitting sources, a moratorium on new emitting sources needs to be established.

Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of	)	
	)	
Guidelines for Evaluating the	)	ET Docket No. 93-62
	)	
Environmental Effects of	)	and Report and Order
	)	
Radiofrequency Radiation	)	FCC 96-326

To: The Commission

PETITION FOR RECONSIDERATION

The Cellular Phone Taskforce hereby submits this Petition for Reconsideration of the Commission's Report and Order FCC 96-326 issued in the above docket, released August 1, 1996.

The Cellular Phone Taskforce has also subscribed to the Petition for Reconsideration which is being filed by the Ad-Hoc Association of Parties Concerned About the Federal Communications Commission's Radiofrequency Health and Safety Rules. In addition to the concerns being brought to the Commission by that Association, the Cellular Phone Taskforce brings the following additional information, concerning the public health and safety and directly affecting the members of the Cellular Phone Taskforce. Some of this information is only now becoming available. The Cellular Phone Taskforce respectfully requests that Final Rule FCC 96-326 regarding

ET Docket 93-62, be modified accordingly.

1a. The existence of a population who are electrosensitive

"Inescapable exposure to the electromagnetic fields in the vicinity of these cellular telephone transmitters may sensitize susceptible individuals in the normal population, thereby causing them to become electrosensitive.

". . . Electrosensitivity. . . is the condition of being hypersensitive to non-ionizing electromagnetic fields (EMF). The reactions may vary, depending on the frequency and other features of the electromagnetic fields encountered, but headache and nausea are fairly common symptoms. The complete set of symptoms suffered by some individuals may be disabling--even life-threatening--while others may suffer only a mild effect.

"The first nationwide survey of electrosensitive people in the United States should be released any day now. When these results become available, it should be possible to provide some quantitative data on this condition." (Marjorie Lundquist, Ph.D., C.I.H., Bioelectromagnetic Hygienist, August 9, 1996)[1]

It has been estimated that perhaps 2% of the population are susceptible to becoming electrosensitive.[2,3,4]

It is medically necessary for electrosensitive individuals to live remotely from all electromagnetic radiation emitters.[5]

The ANSI/IEEE Radiofrequency Protection Guides and the NCRP Exposure Criteria are based upon the premise that there

are no non-thermal health effects from radiofrequency radiation. In the case of the electrosensitive population, whose numbers are only now becoming apparent, this is not a valid assumption.

In addition, as already noted, a certain percentage of the normal population are susceptible to becoming electrosensitive, and will also suffer non-thermal health effects from low-level radiofrequency signals.

Therefore, Title 47 of the Code of Federal Regulations, Part 1, Section 1.1310, needs modification to protect electrosensitive and other susceptible individuals from non-thermal effects of radiofrequency radiation within their own homes, and in public places, especially in view of "the expected proliferation of these towers in the future" which was noted in paragraph 92 of the Report and Order. The towers which are expected to proliferate so much as to be inescapable will emit signals above 100 MHz in frequency. These are also the most biologically significant frequencies, corresponding to wavelengths equal to or smaller than the size of the human adult body. Accordingly, Table 1(B), "Limits for General Population/Uncontrolled Exposure", should be modified so that the permitted Power Density for all frequencies above 100 MHz is less than the threshold reported in the scientific and medical literature for non-thermal bioeffects. This threshold is generally $10 \mu W/cm^2$.[6,7,8]

In addition, Sec. 1.1307 needs to be modified to require routine environmental evaluation of all transmitters,

facilities, and operations that are less than 2000 feet from any residence, without exception, to determine compliance with the exposure limits in Section 1.1310. In arriving at a distance of 2000 feet (610 meters), the Cellular Phone Taskforce follows the lead of a Butler Township, Pennsylvania ordinance passed in 1993 to protect the health of all of its citizens, including the electrosensitive population. The drafters of that ordinance noted the following statement by Jo P. Vaughan, attorney for Aerojet General in Sacramento County, California on May 24, 1991:

"Transmitters in high gain antenna utilized for cellular telephone telephone towers produce, in the field of the antenna's major power lobe, electromagnetic interference in the order of 200 mV/m at a distance of 2000 feet from the tower. This is sufficient to interfere with the accurate operation of sensitive instruments utilized for precision measurement and data acquisition systems. Any manufacturing facility using accelerometers, computerized precision tooling, oscillographs, and signal measuring devices could be affected by such interference.

". . . Aerojet therefore suggests that the final ordinance include as a standard for cellular antenna to be affixed to any tower located within 2000 feet of a manufacturing facility the following: 'The field strength of any radio-frequency emitter shall not exceed 1 mV/m measured at 2000 feet as prescribed by IEEE Standard #291 - 1969 Standards Report on Measuring Strength in Radio Wave Propagation.'"

The Cellular Phone Taskforce follows the lead of Butler Township in using standards needed to protect sensitive electronic equipment as a basis for recommending safety standards necessary to protect electrosensitive individuals.[9]

1b. Petitioners are directly affected.

The members of this Petitioning Group, the Cellular Phone Taskforce, include electrosensitive individuals, their friends and relatives. Some are already unable to work because of the proliferation of electromagnetic radiation (EMR) emitting sources in the modern workplace. The Social Security Administration has recognized our electrosensitivity as a disability. Therefore the Public Accommodations Section of the Americans With Disabilities Act of 1990 applies to electrosensitive individuals.

2. Necessity for further defining Specific Absorption Rate (SAR)

Individuals of different sizes absorb EMR of a given frequency at different rates. For example, an adult head 0.3 meters in diameter will preferentially absorb a wavelength of 0.3 meters, or a frequency of 1000 MHz. A child's head half as large will preferentially absorb EMR of 2000 MHz. As the SAR for a given frequency will differ significantly for individuals of different sizes and ages, it needs to be calculated for the range of human sizes from newborns to adults. All safety standards in Section 1.1307 and Section 1.1310 need to be adjusted to protect those with the greatest SAR for each frequency.

3a. Microwave hearing

It is well established that human beings--even deaf human beings--can "hear" buzzes, hisses and clicks when exposed to radio frequency pulsed signals of 300 to 3000 MHz.[10,11,12] Perception depends on peak power and pulse width, not average power.[12] The peak power threshold for this effect is "somewhat less than 80 mW/cm^2."[12] but the average power threshold is $2 \mu W/cm^2$.[11]

As the Final Rules establish no limits for peak power at these frequencies, and the average power limits are several orders of magnitude above the threshold for sound perception, there is nothing in these rules to protect the public against this sort of chronic nuisance. All of the new antennas which are expected to proliferate will be generating pulsed signals. Therefore Section 1.1310 needs to be amended to include limits on peak power and pulse width which will prevent such a nuisance. The Cellular Phone Taskforce requests the Commission to establish such limits in consultation with appropriate bioelectric experts. In case suitable data on pulse widths are not available, the Cellular Phone Taskforce asks the Commission to modify Table 1(B) to include a limit of 40 mW/cm^2 peak power for frequencies of 300 to 3000 MHz.

3b. Petitioners are directly affected

The Cellular Phone Taskforce includes several members presently bothered by sounds caused by proximity

of radio frequency transmitters to their residences.

4. Cumulative mass impact

As noted in the Petition for Reconsideration of the Ad-Hoc Association of Parties Concerned About the Federal Communication Commission's Radiofrequency Health and Safety Rules, a person at a given location may be exposed to the cumulative EMR emissions of numerous transmitters. Irradiation from each transmitter may be within Commission exposure limits, but the combined exposure from all could well exceed those limits.

The Cellular Phone Taskforce notes that the true EMR exposure to any individual is the combined exposure from all transmitters, facilities, operations, and satellites listed in Section 1.1307 (b) (1) Table 1, broadcasting at all the frequencies listed in Section 1.1310 Table 1. The Cellular Phone Taskforce notes that no methodology has been presented in the Final Rules or in the Report and Order for evaluating either thermal or non-thermal cumulative effects to individuals from all the EMR emitters that actually impact them. Because of the expected proliferation of such transmitters, facilities, operations, and satellites in the near future, the discrepancy between the Guidelines issued August 1, 1996 and actual EMR exposure to the public will continue to grow larger.

Accordingly, until such time as such a methodology is established, a moratorium on new EMR emitting facilities,

transmitters, operations and satellites needs to be established in order to protect the public from an ever-growing cumulative exposure which the Final Rules as issued August 1, 1996 have set no limits on.

Footnotes

1. Letter to Ralph Balzano, Commissioner, Dept. of Information Technology and Telecommunications, City of New York.

2. Morton, William E. "Redefinition of Abnormal Susceptibility to Environmental Chemicals", paper presented on 6 June 1995 at Second International Congress on Hazardous Waste: Impact on Human and Ecological Health, Atlanta, Georgia. This paper estimates up to 5% of the population are susceptible to chemical sensitivity and porphyria.

3. Survey by DePaul University MCS research team, reporting one-third of chemically sensitive individuals are electrosensitive.

4. Firstenberg, Arthur. "What Does Electromagnetic Sensitivity Have to do With Porphyria?--A biological detective story". Electrical Sensitivity News, Vol. 1, No. 2, March 1996, pp. 6-7.

5. "Electrical Hypersensitivity". An Information Sheet published by FEB, the Swedish Association for the Electrically and VDT Injured, Stockholm, Sweden.

6. Giarola, A.J. et al. "The Growth of Animals Under the Influence of Electric and Magnetic Fields". In Health Physics in the Healing Arts, Seventh Midyear Topical Symposium, Health Physics Society, San Juan, Puerto Rico, Dec. 11-14, 1972. Published March 1973. Pages 502-509.

7. Giarola, A.J. et al. "The Effect of a Continuous UHF Signal in Animal Growth". 1971 IEEE International Electromagnetic Compatibility Symposium Record, Philadelphia, Pa., July 13-15, 1971, pp. 150-153.

8. McRee, Donald I. "Review of Soviet/Eastern European Research on Health Aspects of Microwave Radiation". Bull. N.Y. Acad. Med., Vol. 55, No. 11, Dec. 1979, pp. 1133-1151.

9. Butler Township, Butler County, Pennsylvania, Ordinance #729 enacted Sept. 13, 1993. The ordinance requires cellular towers to be more than 2000 feet from the property line of the nearest residence.

10. Frey, Allan H. "Some Effects on Human Subjects of Ultrahigh-Frequency Radiation", American Journal of Medical Electronics, Vol. 2, 1963.

11. Justeson, Don R. "Behavioral and Psychological Effects of Microwave Radiation". Bull. N.Y. Acad. Med., Vol. 55, No. 11, Dec. 1979, pp. 1058-1078.

12. Frey, Allan H. and Messenger, Rodman, Jr. "Human Perception of Illumination with Pulsed Ultrahigh-Frequency Electromagnetic Energy". Science, Vol. 181, 27 July 1973, pp. 356-358.

WHEREFORE, the Cellular Phone Taskforce respectfully requests, for the foregoing reasons, that Final Rule FCC 96-326 regarding ET Docket 93-62, be modified as indicated in this Petition. Should the Commission require more information, please feel free to contact the undersigned.

Respectfully submitted,

Date Aug. 30, 1996 By Arthur Firstenberg

Arthur Firstenberg, Chairman
Cellular Phone Taskforce

Post Office Box 100404
Vanderveer Station
Brooklyn, New York 11210
(718) 434-4499

Original + 14 copies via Federal Express, Postage Paid to the Secretary of the Federal Communications Commission, 1919 M Street, NW, Room 222, Washington, DC 20554